Fig.1

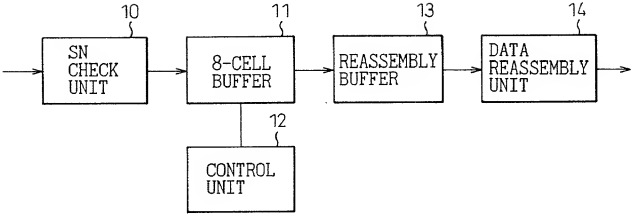

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Fig.2

a: SC	0	1	2	3	4	5	6	7
b: RECEIVED CSI	0	0	0	0	0	0	0	0
c: DECISION FORMAT	N	N	N	N	N	N	P	N

(1) CONTROL METHOD OF 8 CELL BUFFER

a: SC	0	1	2	3	4	5	6	7
b: RECEIVED CSI	0	0	0	0	0	0	0	0
d: DUMMY CELL	0	0	1	1	1	0	0	0
c: DECISION FORMAT	N	N	N	N	P	N	N	N

(2) CONTROL METHOD OF 8 CELL BUFFER

a: SC	0	1	2	3	4	5	6	7
b: RECEIVED CSI	0	0	0	0	0	0	0	0
e: INVALID CELL	0	0	1	0	1	0	0	0
c: DECISION FORMAT	N	N	N	N	P	N	N	N

(3) CONTROL METHOD OF 8 CELL BUFFER

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Fig.3

a: SC	0	1	2	3	4	5	6	7
b: RECEIVED CSI	0	0	0	0	0	0	0	0
d: DUMMY CELL	0	0	0	0	1	0	0	0
e: INVALID CELL	0	0	1	0	0	0	0	0
c: DECISION FORMAT	N	N	N	N	P	N	N	N

(4) CONTROL METHOD OF 8 CELL BUFFER

a: SC	0	1	2	3	4	5	6	7
b: RECEIVED CSI	0	0	0	0	1	1	0	0
c: DECISION FORMAT	N	N	N	N	P	N	N	N

(5) CONTROL METHOD OF 8 CELL BUFFER

a: SC	0	1	2	3	4	5	6	7
b: RECEIVED CSI	0	0	1	0	1	0	0	0
c: DECISION FORMAT	N	N	N	N	P	N	N	N

(6) CONTROL METHOD OF 8 CELL BUFFER

a: SC	0	1	2	3	4	5	6	7
b: RECEIVED CSI	0	0	1	0	1	0	0	0
e: INVALID CELL	0	0	1	0	0	0	0	0
c: DECISION FORMAT	N	N	N	N	P	N	N	N

(7) CONTROL METHOD OF 8 CELL BUFFER

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Fig.4

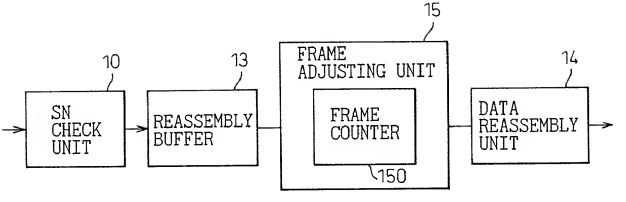

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Fig.5

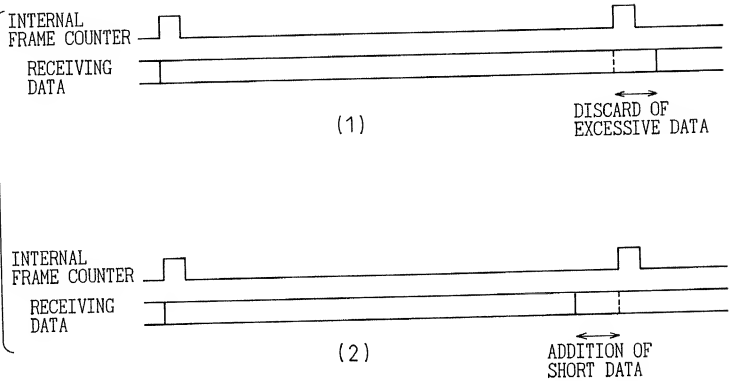
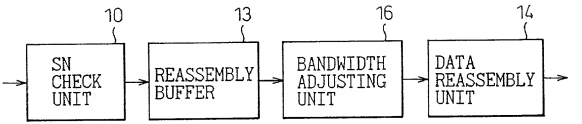


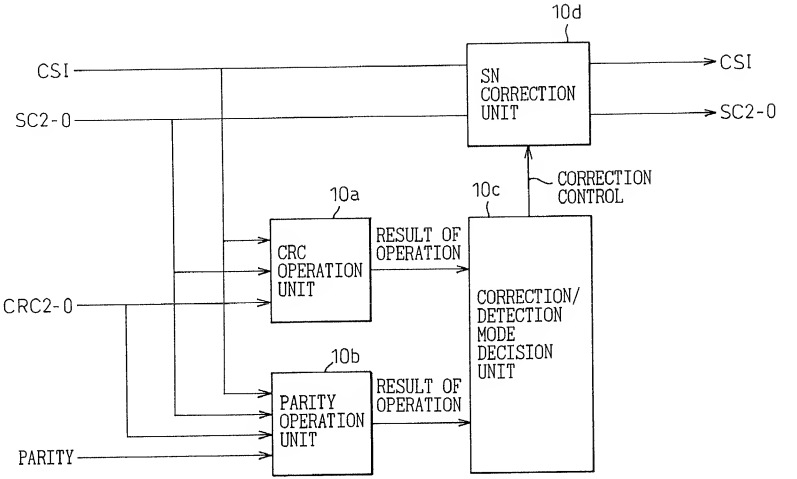
Fig.6



EP 0 944 275 A1 (19990922)

09759176.011204

Fig.7



097591276.011204

Fig.8

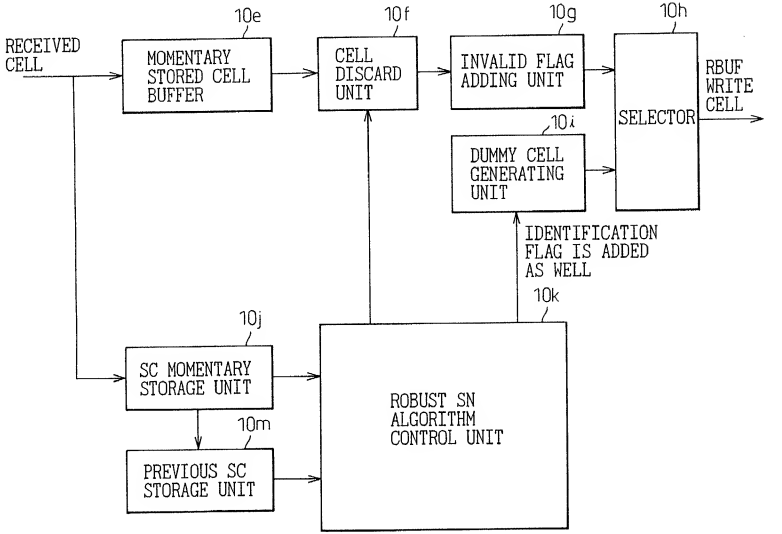


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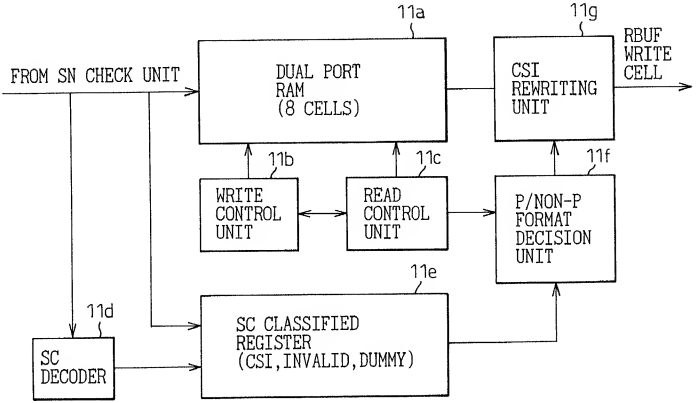
Fig.9



09759376.011204

Fig.10

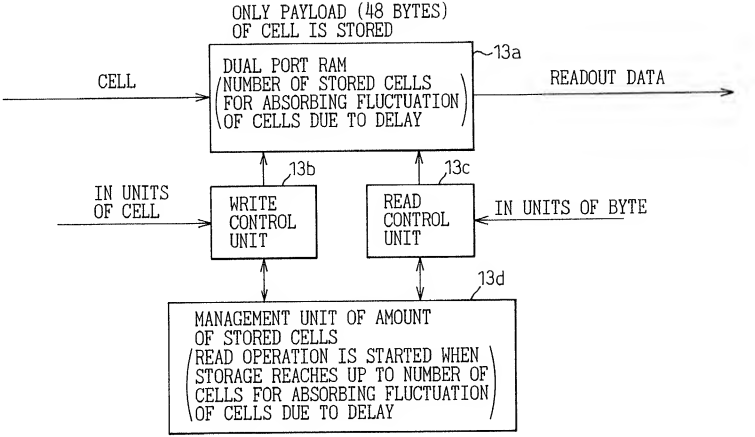


Fig.11

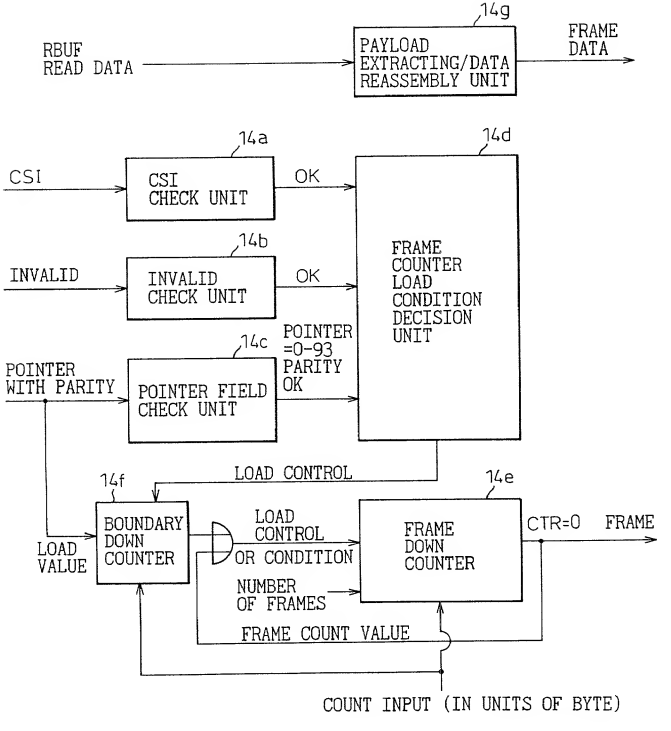

14g
RBUF
READ DATA
PAYLOAD
EXTRACTING/DATA
REASSEMBLY UNIT
FRAME
DATA
14a
CSI
CSI
CHECK UNIT
OK
14d
14b
INVALID
INVALID
CHECK UNIT
OK
FRAME
COUNTER
LOAD
CONDITION
DECISION
UNIT
14c
POINTER
=0-93
PARITY
OK
POINTER
WITH PARITY
POINTER FIELD
CHECK UNIT
LOAD CONTROL
14f
14e
BOUNDARY
DOWN
COUNTER
LOAD
CONTROL
OR CONDITION
FRAME
DOWN
COUNTER
CTR=0
FRAME
LOAD
VALUE
NUMBER
OF FRAMES
FRAME COUNT VALUE
COUNT INPUT (IN UNITS OF BYTE)

Fig.12

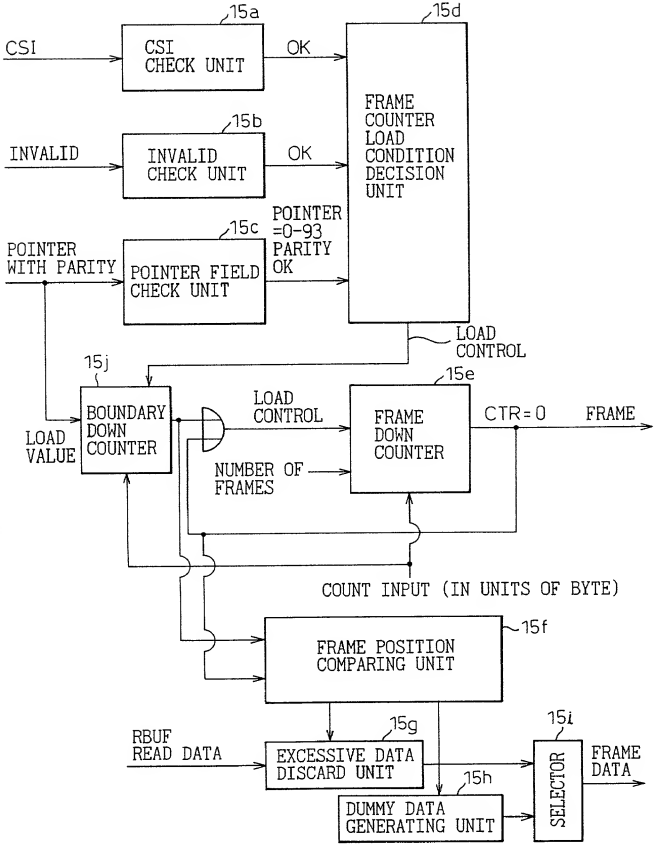

15a
CSI
CSI CHECK UNIT
OK
15d
FRAME COUNTER LOAD CONDITION DECISION UNIT
15b
INVALID
INVALID CHECK UNIT
OK
POINTER =0-93 PARITY OK
15c
POINTER WITH PARITY
POINTER FIELD CHECK UNIT
LOAD CONTROL
15j
15e
BOUNDARY DOWN COUNTER
LOAD CONTROL
FRAME DOWN COUNTER
CTR=0
FRAME
LOAD VALUE
NUMBER OF FRAMES
COUNT INPUT (IN UNITS OF BYTE)
FRAME POSITION COMPARING UNIT
15f
RBUF READ DATA
15g
EXCESSIVE DATA DISCARD UNIT
15i
SELECTOR
FRAME DATA
15h
DUMMY DATA GENERATING UNIT

Fig.13

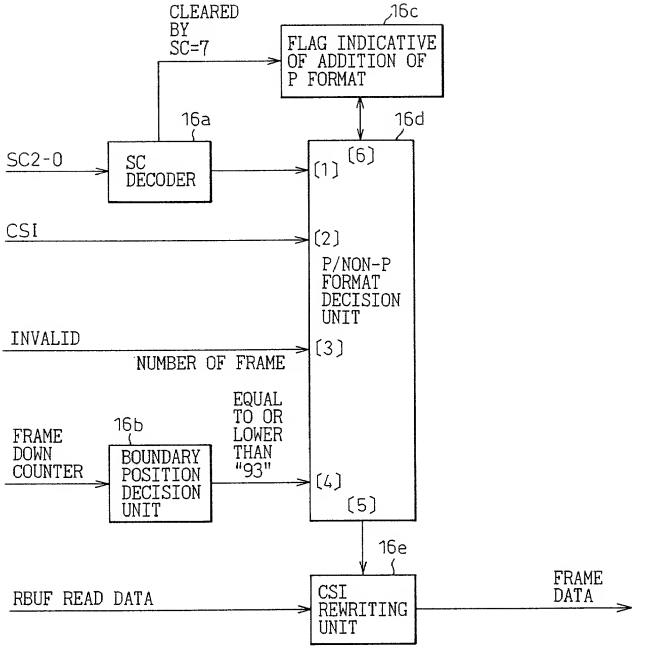


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Fig.14

SC	CSI	INVALID	FRAME COUNTER	P FORMAT HAS BEEN ADDED	DECISION PROCESSING	NOTE
0.2.4	1	0	d.c	d.c.	P FORMAT IS MAINTAINED	*1
	1	1	1	d.c.	P FORMAT IS MAINTAINED	*2
	1	1	0	d.c.	CHANGED TO NON-P FORMAT	*3
	0	0	1	d.c.	CHANGED TO P FORMAT	*4
	0	0	0	d.c.	NON-P FORMAT IS MAINTAINED	
	0	1	1	d.c.	CHANGED TO P FORMAT	*3
	0	1	0	d.c.	NON-P FORMAT IS MAINTAINED	*2
1.3.5.7.	0	0	d.c	d.c.	NON-P FORMAT IS MAINTAINED	
	1	0	d.c	d.c.	CHANGED TO NON-P FORMAT	ASSUMING AS CSI ERROR
6	d.c	d.c	d.c	0	P FORMAT IS MAINTAINED	BAND IS COMPULSORILY ADJUSTED
	1	0	d.c	1	P FORMAT IS MAINTAINED	*1
	1	1	0	1	CHANGED TO NON-P FORMAT	*3
	0	0	0	1	NON-P FORMAT IS MAINTAINED	
	0	1	0	1	NON-P FORMAT IS MAINTAINED	*2

*1 RECOGNIZED AS NORMAL POINTER
*2 ASSUMED AS MULTIPLE BIT ERROR INCLUDING CRC AND EP
*3 ASSUMED AS MULTIPLE BIT ERROR INCLUDING CSI AND EP
*4 ASSUMED AS DUMMY CELL

EP 0 747 826 A1

Fig.15

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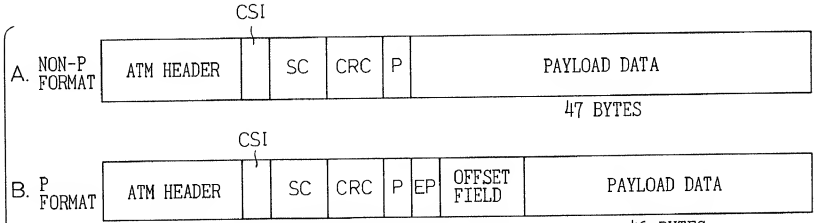
Fig.16



ATM HEADER : ATM CELL HEADER (5 BYTES)
CSI : CONVERGENCE SUBLAYER INDICATION
P/NON-P FORMAT IDENTIFIER (P FORMAT, WHEN CSI=1)
SC : SEQUENCE COUNT
NUMBERS OF 0-7 ARE INDICATED CYCLICLY (SC=0-7 PER 1 CYCLE)
CRC : CYCLIC REDUNDANCY CHECK
ERROR CHECK (CRC-3) FOR CSI AND SC AREAS
P : PARITY
EVEN PARITY INDICATION FOR CSI, SC AND CRC AREAS
EP : EVEN PARITY
EVEN PARITY INDICATION FOR OFFSET FIELD
OFFSET FIELD: INDICATING NUMBER OF BYTES UP TO FRAME (BOUNDARY)
OF DATA TRANSFERRED
PAYLOAD DATA: TRANSFER DATA

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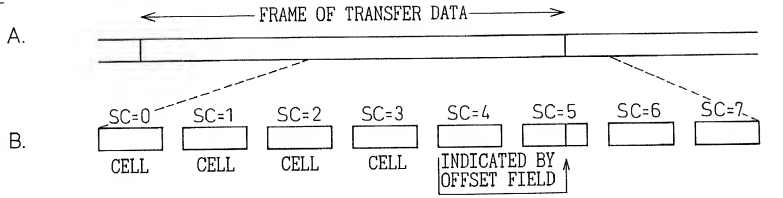
Fig.17



- ODD NUMBER SC IS NON-P FORMAT AT ALL TIMES.
- ONE P FORMAT EXISTS IN ONE CYCLE AT ALL TIMES.
  NUMBER OF BYTES UP TO BOUNDARY IS SET IN ITS OFFSET FIELD.
  0-93 ARE SET IN OFFSET FIELD IF IT INDICATES BOUNDARY.
- OTHER EVEN NUMBER SC IS NON-P FORMAT.
- SC=6 BECOMES P FORMAT IF THERE IS NO BOUNDARY IN ONE CYCLE
  AND 127 IS SET IN OFFSET FIELD.

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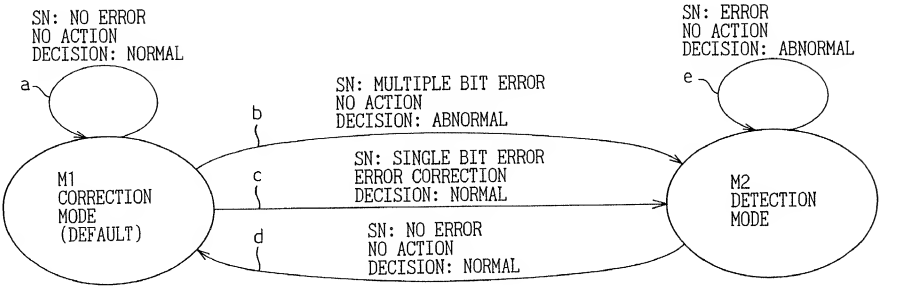
Fig.18



EP 0 927 927 A2

Fig.19

	RESULT OF CRC-3 OPERATION	RESULT OF PARITY CHECK	STATE	MODE TRANSITION
DURING CORRECTION MODE	OK	OK	SN IS VALID	
	NG	NG	1 BIT IS CORRECTED BY CRC-3 ERROR BIT DECISION AND SN IS VALID	TRANSITION TO DETECTION MODE
	OK	NG	CORRECTION BY PARITY BIT IS DONE AND SN IS VALID	TRANSITION TO DETECTION MODE
	NG	OK	CORRECTION CANNOT BE DONE DUE TO MULTIPLE BIT ERROR AND SN IS INVALID	TRANSITION TO DETECTION MODE
DURING DETECTION MODE	OK	OK	SN IS VALID	TRANSITION TO CORRECTION MODE
	NG	NG	NOT CORRECTED AND SN IS INVALID	
	OK	NG	NOT CORRECTED AND SN IS INVALID	
	NG	OK	NOT CORRECTED AND SN IS INVALID	

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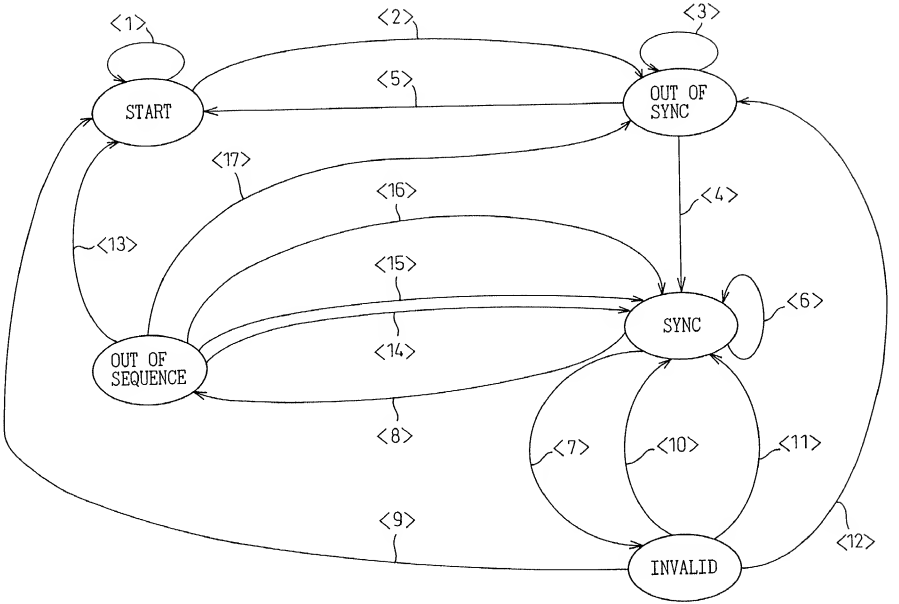
Fig.20



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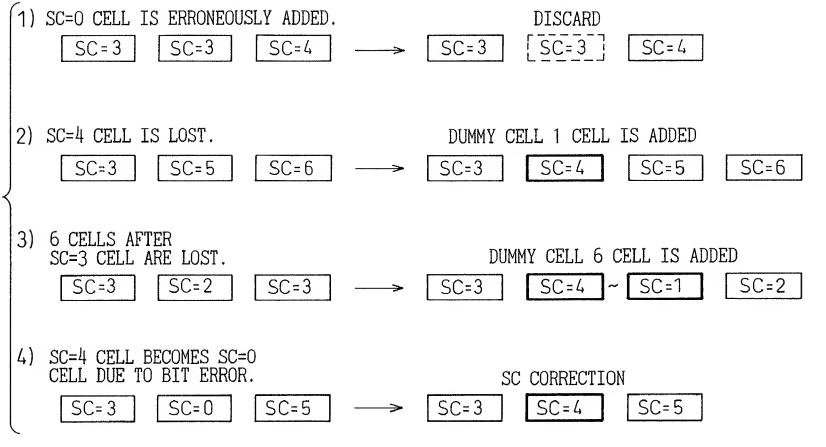
Fig.21